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ABSTRACT

The focus of this paper is the benefits and successes accruing from using cooperative learning in the classroom. The background of small group instruction as an effective learning strategy is discussed. Descriptions are given of several cooperative learning techniques--Student Teams-Achievement Divisions, Teams-Games-Tournaments, Jigsaw, and Think-Pair-Share. The steps in cooperative learning are described and the implications for effective classroom management are discussed. Suggestions are made for inservice training of teachers in cooperative learning methods. Two examples of cooperative learning activities are appended. (JD)

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INTERACTIVE LEARNING

CREATING AN ENVIRONMENT FOR COOPERATIVE LEARNING

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Background

Cooperative Learning involves students in small groups. These small groups represent essential education for citizenship in a democracy. Students need to learn to discuss both controversial and mundane matters, to communicate effectively, to listen to and respect the opinions of others, and to deal with people whose backgrounds and interests may differ from their own. These discussions reinforce and use some of the knowledge that the students learn in large groups and in their own independent study. Students crystallize values and form attitudes in much the same way as in life outside the classroom.

Cooperative Learning is constituted on a variety of bases in accordance with the professional decisions of teachers. Groups may be composed of students based on friendships, emotional maturity, gender, quality of past school work in a subject, special interests, vocational or educational goals, counseling records, interest inventories, teacher opinions, sociometry, and school records. One common method of grouping students is by random assignment. More commonly, groups are heterogeneous or mixed with below average, above average, and average students in the same group.

In William Glasser's recent book, Control Theory in the Classroom (1986), he emphasized the power of this process:

> What we need to do is to move to classrooms in which students work together in small learning-teams. If we are willing to make this move, I believe we will have a good chance to succeed in motivating almost all students to work...

The methodology of small groups includes a wide variety of group types, i.e. brainstorming, buzz groups, fishbowl, group therapy, Phillips 66 groups, tutorial groups, task groups, role-playing, simulations, inquiry groups, problem-solving groups, and Cooperative Learning. The small group methodology known as Cooperative Learning has been identified with specific approaches to process and product.

The student takes more responsibility for his/her own learning. The student is able to work with other persons in a cooperative manner. This is how society really works! Cooperative Learning places the responsibility for learning upon the student. Cooperative Learning has been closely associated with the works of David and Roger Johnson and Robert Slavin. There are numerous forms of Cooperative Learning. Learning Together has been associated with the Johnsons of the University of Minnesota. Student Teams-Achievement Divisions (STAD) is associated with Slavin at Johns Hopkins University. Teams-Games-Tournaments (TGT) was associated with DeVries and Edwards and now with Slavin. Jigsaw is associated with Aronson at the University of California at Santa Cruz and Jigsaw II with Slavin. Group Investigation is associated with Sharan of the University of Tel Aviv. Think-Pair-Share is associated with Kagan of the University of California at Riverside.

Benefits

The benefits of Cooperative Learning have been documented in various studies. Cooperative Learning promotes increased academic achievement and involves relative ease of implementation and reasonable costs. Improved behavior, increased liking of the class and other students, and better attendance are also benefits of Cooperative Learning. Cooperative Learning also promotes student motivation, encourages group processes and positive social and academic interaction among students, and rewards successful group participation. (Slavin, 1987)

Cooperative Learning helps students at every academic level to feel successful and productive in class. In cooperative learning teams, low achieving students can make contributions to a group and experience success, while all students can increase their understanding of ideas by explaining them to others. (Featherstone, 1986)

The elements of Cooperative Learning as described by Johnson and Johnson (1984) relate directly to the elements of effective instruction. Cooperative Learning tasks involve positive interdependence and individual accountability. To work successfully in a Cooperative Learning team, students must master interpersonal skills as a group and as individuals in order to successfully accomplish the group task.

Positive outcomes from Cooperative Learning occur in the relationships between students from different ethnic and racial backgrounds. Slavin (1980) indicated that "Cooperative learning methods embody the requirements of cooperative, equal status interaction between students of different ethnic backgrounds sanctioned by the school."

Techniques

Cooperative Learning techniques which have been identified by researchers include STAD, TGT, Jigsaw, Learning Together, Group Investigations, and Think-Pair-Share.

STAD (Student Teams-Achievement Divisions) is perhaps one of the easiest of these strategies to implement since content can be presented in the way the teacher has traditionally presented the lesson and individual assessment can utilize the same criteria and methods the teacher has traditionally used. After the lesson has been presented, student teams work on assignments cooperatively to master the material.

Newmann and Thompson (1987) examined Cooperative Learning research studies and have found that STAD is the most successful of the Cooperative Learning techniques when compared with traditional teaching methods. STAD provided a higher percentage of

academic success in 89 per cent of the studies.

TGT (Teams-Games-Tournaments) is similar to the STAD strategy. After working with team members to learn material, students compete with others of like achievement to earn points for their teams. Individual assessment is then conducted.

Learning Together is a process defined by Johnson and Johnson (1984). Students are given cooperative tasks which create positive interdependence and encourage group interaction. Rewards are given for both individual and group performance. A fourth-grade sample lesson on Jelly Making follows.

Group Investigations requires students to work together to complete tasks by deciding what information is needed, how the information will be organized, and how the information will be presented. In organizing the tasks and facilitating the group work, teachers encourage application, synthesis, and inference. A fourth-grade sample lesson on Famous Kansans follows.

Jigsaw is the least successful of the techniques studied by Newmann and Thompson. In Jigsaw, each team member studies a part of a topic or concept, meets with a group of students who have studied the same material, and teaches the topic to their own group. Individuals must rely on team members for part of the information needed to do well on the individual test.

Think-Pair-Share starts each student thinking about and working on the task alone. After individual students have worked on the material, pairs of students share their responses to the task. This involves peer tutoring as part of the strategy. Information can be shared with the whole group as well.

Steps in Cooperative Learning

Each Cooperative Learning approach is different, however, Foyle and Lyman (1989) identify the basic steps involved in successful implementation of the technique:

1. The content to be taught is identified and criteria for mastery is determined by the teacher.

2. The Cooperative Learning technique that would be most useful for the specific objective is identified and the group size is determined by the teacher.

3. Students are assigned to groups. Heterogeneous learning groups have the most potential for success in Cooperative Learning since student differences make the groups work.

4. The classroom is arranged to facilitate group interaction.

5. Group processes are taught or reviewed as needed to assure that the groups run smoothly.

6. The teacher makes the expectations for the learning clear and makes sure students understand the purpose of the learning that will take place in the groups. A time line for activities is made clear to the students.

7. The teacher presents initial material as appropriate using whatever techniques the teacher chooses.

8. The teacher monitors student interaction in the groups as the students work on their tasks and provides assistance and clarification as needed. The teacher reviews group skills and facilitates problem-solving as needed.

9. Student outcomes are evaluated. Students must individually demonstrate their mastery of the important skills or concepts of the learning. The students may be encouraged to think of creative or unusual ways to demonstrate that they have learned.

10. Groups are rewarded for their success. Teacher verbal praise, class newsletters, or bulletin board recognition are possible ways to reward high achieving groups.

Classroom Management

Classroom management is always a concern of teachers and administrators. Cooperative Learning is no different. There are specific administrative concerns about classroom management and Cooperative Learning at the middle school and high school levels. The following information addresses those concerns.

The premise that all administrators desire quiet, orderly and noiseless classrooms has somehow become part of the folklore of administrators' expectations. Not all administrators, especially those of the 90's, will expect to walk down the halls and observe students sitting quietly in rows listening to "teacher talk" about the subject. In fact, the administrator of the future will expect a classroom that is participative in nature and one that encourages shared experiences.

Cooperative Learning when used by teachers has proven to be an effective strategy that is supported by progressive administrators. Charles (1989) does indicate, "Despite the well-documented advantages of cooperative learning, it would defy common sense to conclude that all learning occurs best through the cooperative mode." Yet, administrators recognize that excellent teachers are always looking for better strategies to improve their teaching and expect teachers to try these different teach-

ing strategies. The concept of finding one method that worked and using it day in and day out will not be an acceptable practice in the classrooms of the future. Principals of the future will expect teachers to vary instructional strategies and vary the level of learning activities.

Demographic changes will have a major impact on principals and teachers during the next ten to fifteen years. Trends indicate that more students at-risk will be present in our schools; for example, a larger second language population, a larger minority population, and more latch-key children will make up our student population. Effective educational leaders recognize that traditional teaching strategies used solely will not offer the diversity needed by this clientele.

Glasser (1986) on many occasions has indicated the needs that students have. One need that he continually mentions is the "need to belong, to feel accepted, to be a member of the group or class." In addition, Glasser points out that the need to do some work is a significant factor influencing students' feelings of success in school. These demographics and observations of professionals like Glasser should indicate the worth of Cooperative Learning to a teacher and school staff. Cooperative Learning, if properly implemented, will help students develop a sense of belonging and also give them a sense of accomplishment.

Administrators expect teachers to meet the needs of individual students, not only those outlined by Glasser, but other individual learning needs as well. Short of preparing an I.E.P. for each student, teachers can utilize Cooperative Learning as a strategy to help meet many student needs. Excellent principals are concerned about the classroom environment which impacts upon learning. They recognize that if students are motivated classroom problems decline and better learning takes place. Cooperative Learning creates a positively shaped environment which permits success at a variety of levels.

By instituting a Cooperative Learning program, administrators and teachers can serve the needs of many groups and still insure that students are challenged individually. Students will develop a sense of belonging and, as Glasser and others believe, Cooperative Learning helps students reach this important shared feeling. If Cooperative Learning is implemented correctly, it also allows for individual strengths and individual accountability from each student to emerge. Principals and teachers of the 90's must recognize the need, more than any other age, to encourage a cooperative atmosphere between diverse groups. When Cooperative Learning is used on a consistent basis and is well-planned, there will be more opportunity for student success and more opportunity to meet the needs of our changing student population. Teachers will also benefit from the positive interaction that naturally evolves when using Cooperative Learn-

ing. By encouraging shared responsibility and shared learning, students will be less likely to cause trouble and more likely to feel successful about school.

From an administrator's point of view, Cooperative Learning offers several advantages for the student, teacher, and school environment. It gives the teacher an opportunity to expand on instructional strategies and allows the teacher to individualize in a way that is not impossible to accomplish. Cooperative Learning will allow teachers to meet the demands of a more diverse clientele and, therefore, assist them in managing their classes better. In addition, teachers will be able to expand their expectations for students who are above average and create an environment where students help one another. From the principal's perspective, Cooperative Learning creates a climate that makes a better school.

Staff Development

If Cooperative Learning is to be implemented effectively by teachers, it must also be considered as a strategy in the staff development experiences that seek to encourage professional growth and development in the teaching staff. Teachers must be actively involved, with administrators, in cooperatively choosing the goals, desired outcomes, and delivery systems for staff development. As Welsh (1986) pointed out,

> Until now, the 'experts' have owned educational reform. However, the best judges of what needs to be done are communities, teachers, families, and the kids themselves.

Too often, staff development programs for teachers have the same drawbacks as the traditional quiet, "expert talk" dominated classrooms. Teachers are often forced to listen while "experts" who they have had little say in choosing suggest changes and innovations the teachers are to implement. Follow-up, if any, is often directed at measuring how the innovations have been implemented, rather than at cooperative planning by teachers and administrators.

Ideally, inservice would often involve teachers in small, heterogeneous groups working together. Staff development would be initially planned and developed with teacher input, and then promote the active involvement of the staff in the inservice experiences which accompny that program. Opportunities for teachers to get acquainted with each other, to share experiences, and to collaborate on strategies for helping students would be a key part of such staff development programs. This is being accomplished in the Kansas State Inservice Plan. The Plan sets up district Professional Development Councils in which the teachers and the administrators jointly develop inservice experiences.

Another important feature of staff development should be that it provides teachers with the opportunity to network with other professionals who share their needs. Too often, staff development perpetuates teacher isolation rather than diminishing it. Individual accountability, an important component of Cooperative Learning, can be monitored by peers, supervisors, and administrators who help each teacher develop realistic goals for improvement and assist the teacher in meeting those goals. The teacher would also have a network of colleagues to assist in problem solving, in developing further goals, and in sharing and celebrating successes.

Conclusion

In Joyce and Weil's book, Models of Teaching (1986), Cooperative Learning is found in "The Social Family" model of teaching. Cooperative Learning applies small group processes in the classroom. The social or affective outcomes of learning often are as important as the academic or cognitive outcomes of learning. In Cooperative Learning both the process and the product can be important outcomes. As Glasser (1986) stated:

> We will not improve our schools unless we try to offer what we want to teach in a recognizably different form from the way we are presently teaching.

By encouraging positive student interaction and building group skills, teachers can model the ideals of their disciplines while increasing the academic success and self-esteem of their students.

Selected References

Charles, C.M. (1989). Building Classroom Discipline. Longman. 143-148.

Featherstone, H. (September, 1986). Cooperative learning. Harvard Education Letter. 4-6.

Foyle, H. & Lyman, L. (1989). The Interactive Classroom: Cooperative Learning. Two 16 minute videotapes on cooperative learning. (For further information contact Harvey Foyle or Lawrence Lyman, The Teachers College, Emporia State University, 1200 Commercial Street, Box 37, Emporia, Kansas 66801.)

Glasser, W. (1986). Control Theory in the Classroom. New York: Harper and Row Publishers.

Johnson, D. W. & Johnson, R. T. (1984). Circles of Learning: Cooperation in the Classroom. Alexandria, Virginia: Association for Supervision and Curriculum Development. (For further information, contact David and Roger Johnson, University of Minnesota, 202 Pattee Hall, Minneapolis, Minnesota 55445.)

Joyce, B. & Weil, M. (1986). Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Newmann, F. M. & Thompson, J. A. (1987). Effects of Cooperative Learning in Secondary Schools: A Summary of Research. (For further information, contact the National Center on Effective Secondary Schools, University of Wisconsin-Madison, 1025 Johnson Street, Madison, Wisconsin 53706.)

Slavin, R. (March, 1987). Cooperative learning: Can students help students learn? Instructor. 74-78.

Slavin, R. (1984). Cooperative Learning: Student Teams. (2nd edition). (Available as Stock Number 1074-4-00-D from National Education Association Professional Library, P.O. Box 509, West Haven, Connecticut 06156

Slavin, R. (1980). Cooperative Learning: What Research Says to the Teacher. (For further information, contact Johns Hopkins Team Learning Project, Center for Social Organization of Schools, Johns Hopkins University, 3505 N. Charles Street, Baltimore, Maryland 21218.)

Sparzo, F. & Potect, J. (1989). Classroom Behavior. Allyn and Bacon.

Welsh, P. (1986). Tales Out of School: A Teacher's Candid Account from the Front Lines of the American High School Today. Viking.

Wlodkowski, R. (1978). Motivation and Teaching. National Education Association.

COOPERATIVE LEARNING

JELLY MAKING

(Learning Together Approach)

Initial Setting

Centers are set up around the outside edges of the room on counters, tables, or desks. These centers are the work areas for each table group. Each table area is numbered. The sugar and pectin locations are labeled since these items so closely resemble each other.

1. Students are put in groups of 4 (3 if 4 doesn't work out)

2. The students then determine how to rotate jobs. Numbering off - 1, 2, 3, 4 works well.

3. Students who are numbered "1" come to the sink and measure 1/2 cup of water and put it in a large plastic cup (substitute for bowl). Students check the appropriate box on the Jelly recipe.

4. Students who are numbered "2" get the cup from the number "1"s and go to the pectin area and measure 2 tablespoons of pectin.

5. Students numbered "2" take the pectin to their assigned work center. Students numbered "3" take a turn to stir well and check the box on the "Jelly recipe" sheet when finished.

6. In 15 minutes, the students numbered "4" go to the center and stir the mixture and check the box.

7. After another 10 minutes (total of 25 minutes to this point), the "1"s go to stir the mixture again and check the box.

8. After 15 minutes, the "2"s go to stir for the last time and check the box.

9. At the same time as step 8, the "3"s go to the sink area and measure 3 tablespoons of grape juice into a second cup and check the box.

10. The "4"s take the cup of grape juice to the sugar table, add 1/2 cup of sugar. They take the mixture to the center and stir the mixture well and check the box.

11. The "1"s and "2"s get the water and pectin mixture from the center, go to the sugar area and add 1/4 cup plus 3 tablespoons of sugar, check the box, stir the mixture, and check the box.

12. With all the students at their centers, the "3"s pour the juice mixture (purple colored) into the clear pectin mixture. The "4"s stir the combined mixture well and check the box.

13. The "1"s pour an amount of the mixture as evenly as possible into 4 small containers (one for each of the group's members). Clear plastic juice glasses were used.

14. Students cover the mixture with plastic wrap and put a rubber band around the top in order to hold the plastic wrap in place. The mixture is allowed to stand and solidify.

15. The resulting grape jelly could be taken home as a present for a holiday season or as a breakfast treat.

JELLY RECIPE

1. Put 1/2 cup water in a bowl.

2. SLOWLY add 2 tablespoons powdered pectin, stirring well.

3. Let mixture stand for 45 minutes, stirring frequently.

4. Put 3 tablespoons frozen grape juice concentrate in a second bowl.

5. Add 1/2 cup sugar. Stir well, but don't expect all the sugar to dissolve.

6. When the water and pectin mixture is ready, add 1/4 cup plus 3 tablespoons sugar.

   Stir until the sugar dissolves.

7. Add the juice mixture to the pectin mixture. Stir well until all the sugar dissolves.

8. Pour into 4 small containers. It will be solid within minutes.

COOPERATIVE LEARNING

FAMOUS KANSANS

(Group Investigations Approach)

1. Assign students to one of six (6) Kansas famous people.

2. Hand out printed information to each small group. Each group receives a different person to study.

3. Students are to read the information about their Kansan. Students then look in the library or classroom books to find additional interesting information about their Kansan. The students are to present the basic information and one other interesting piece of information about their Kansan to the class. The students are to find one item to focus on while making their presentation, e.g. picture, drawing, model, object.

4. The student groups are to spend time deciding who will share what information and how that information is to be shared with the class. Students will have 5 minutes to do a presentation.

5. Each group will present information to the whole class in the way they have planned. Prior to this time each group has appointed a timer to keep track of the time another group uses while presenting their information.

6. The whole class takes a quiz on the presented information. The quiz consists of two (2) facts about each person to be matched with the individual's name. Students will also write a sentence about one more interesting piece of information that they have heard from the presentations.

FAMOUS KANSANS

Choose the name or names that best fits the description. Put the letter on the line.

1._____ A great gunfighter of Kansas cowtowns

2._____ Born in Atchison she was the first woman to fly across the Atlantic Ocean.

3._____ Thirty-fourth president of the United States

4._____ Airplane companies in Wichita

5._____ Fought against alcohol

6._____ Hunted buffalo from 1872-1876

7._____ An Emporian who was the editor of the local newspaper

8._____ Helped national leaders like U.S. presidents make decisions for America

9._____ Spent many years leading American troops

10._____ Became lost in the Pacific Ocean during her flight around the world

11._____ Used a hatchet "to cut out the evil" by smashing saloons

12._____ Built or piloted airplanes at an early age

A. Bat Masterson

B. Carry Nation

C. William Allen White

D. Clyde Cessna
Walter Beech

E. Amelia Earhart

G. Dwight Eisenhower

13. Write one other thing that you learned from the presentations.